Copenhagen Economics

INSIGHTS

RECYCLING IN THE EU

Recycling dreams, dirty realities: Europe's waste problem

Climate & Sustainability | May 2025

With bold targets and new legislation, the EU is driving a push to boost recycling and build a circular economy — but progress is falling short. Without stronger markets and streamlined rules, reaching these goals will be an uphill battle.

The EU is stepping up efforts to boost recycling, strengthen resource resilience, and drive the shift to a circular economy. Achieving these goals relies on building strong recycling markets by cutting costs, growing demand, and securing financing. Without this, the EU risks missing not only its 2030 recycling targets but potentially also secure access to various resource streams going forward.

New innovations are needed to tackle persistent challenges. Recycling remains costly, demand for recycled materials is low, and fragmented rules across Member States risk undermining new investment. Companies that recycle materials often struggle to compete with low-cost virgin alternatives, and current collection and sorting capacities are limited.

To accelerate progress, the EU is revising key legislation like the Waste Framework Directive and introducing measures such as the Ecodesign for Sustainable Products Regulation to boost recyclability and demand. Extended Producer Responsibility schemes are also being expanded to improve financing. However, such solutions can be complex and costly, adding additional costs to companies and – ultimately – consumers.

To turn Europe's circular economy into reality, the EU must align rules, and the industry must invest in innovation and recycling infrastructure. Without faster market development and a more legal framework, the transition to a truly circular economy remains difficult.

Progress on resource resilience and advancing the circular economy is at risk by recycling rates falling behind.

The EU aims to **increase recycling rates**, with the current municipal waste recycling rate at 48 per cent[1] by setting a reuse and recycling target of over 60 per cent by 2030.[2] In addition to municipal waste, the EU wants to increase recycling of textiles, plastics, construction material, and electronic (e-)waste.[3]

The goal is a more **sustainable, circular handling of materials** and to rely less on imported virgin materials for **increased self-sufficiency**. To reach these targets, the EU has put forth new legislation, including a revision of the Waste Framework Directive, the Packaging and Packaging Waste Regulation, and the Waste from Electrical and Electronic Equipment Directive.

The value chain for recycled materials

But early indications show that many EU member states are already **falling behind in meeting their recycling targets**.[4]

Recycling **value chains are complex** with several resource intensive steps, advanced processes, and aftermarkets that compete with low-cost virgin materials, see the recycling value chain to the left. Without proper functioning recycling markets and aftermarkets, it will be difficult for the EU to succeed in achieving its targets.

The recycling markets and aftermarkets are underdeveloped

Drawing on recent conversations with the industry, we have identified that the recycling of even very different products faces similar challenges along the value chain, although to a varying degree. There are three key issues: **low demand**, **high costs**, and **low collection and sorting capacity**.

As our clients tell us, the **demand for recycled materials is low**; in fact, weak demand is highlighted as a key reason for why five out of the eight main secondary raw material markets are not well-functioning.[5] One reason is that many recycling processes **incur high costs**, requiring recyclers to charge higher prices to be profitable. Prices of **recyclates** can be up to 50 per cent greater than the cost of virgin materials.[6] At the same time, the **premium for recycled material is low**.[7] As a result, the industry often faces **prices that do not cover the costs**, which lowers incentives to invest in new recycling capacity and new innovations.

Further up the value chain, current **collection and sorting capacities are low**[8] in the EU, limiting the amount of recycled material which is available.

There are several reasons for these challenges:

- The European recycling industry is **competing against low-cost virgin materials**, often imported from outside the EU.[9]
- **Consumers have not shown high enough willingness-to-pay** for products with recycled content.[10]

---

[1] Eurostat (2025): Municipal waste statistics, link.
[2] European Commission (2023): Waste Framework Directive, link.
[3] For example, the Packaging and Packaging Waste Regulation sets targets for the percentage of recycled plastic used in packaging; the Waste Framework Directive establishes recycling targets for construction waste; and the Waste Electrical and Electronic Equipment Directive sets specific targets for e-waste collection.
[4] European Environment Agency (2023): Many EU Member States not on track to meet recycling targets for municipal waste and packaging waste, link.
[5] Wood, plastics, biowaste, aggregates from construction and demolition waste, and textiles are not well-functioning, whereas aluminium, paper, and glass are functioning well. See European Economic Agency (2022): Investigating Europe's secondary raw material markets, link.
[6] Recycling today (2025): ICIS says rPET incentives remain weak, link.
[7] Saija & Daniotti (2025): Assessing Europeans Consumers' Willingness to Pay for Sustainable Laundry Detergents: A Choice Experiment Approach, link.
[8] Zero Waste Europe (2023): Mixed Waste Sorting to meet the EU's Circular Economy Objectives, link.
[9] EURIC (2024): Urgent actions required to protect the European recycling industry from unfair competition linked to massive imports of plastics labelled as 'recycled', link.
[10] Polyportis et al. (2022): Consumer acceptance of products made from recycled materials: A scoping review, link.

- The **quality of recycled materials** is not always on par with virgin materials.[11]
- European recycling companies face **incoherent and fragmented rules** across the EU which lower possibilities and incentives to invest in recycling.

Case example: Textile sector

Collection and sorting rates are low in the textile sector: of the 10.9 million tonnes of post-consumer waste generated annually, only 2.4 million tonnes are separately collected, and of that, only 1.8 million tonnes are sorted.[12] Once recycled, only 10 percent of recycled fibres retaining their original level of quality.[12]

Case example: Incoherent legislation

The **Waste Shipment Regulation** (WSR) restricts waste movement within and beyond the EU. However, targets set by the **Waste Framework Directive (WFD)** and the **Packaging and Packaging Waste Regulation (PPWR)** rely on the *efficient movement of waste*. For example, effective PVC recycling schemes currently rely on smooth intra-EU shipments, particularly from smaller to larger countries. WSR-related frictions may lead to less recycling and an increased reliance on virgin feedstock.[13]

Unlocking Europe's recycling potential

Considering the full value chain, the EU can accelerate recycling markets through three channels: **lowering costs**, **increasing demand**, and **ensuring financing**. The EU can advance these channels through two broad avenues:

1. **Public support for innovations to lowering costs**

The EU can **enable financial support** for research and development across various stages of the value chain, including collection, sorting, and recycling. Such support can drive innovations to **lower the final cost** of recycled materials. Programs under Horizon Europe support the transition to a circular economy,[14] where recycling initiatives are a key component.

2. **Revising legislation to increase recyclability and lower costs**

The EU can **revise existing legislation**, such as the Waste Shipment Regulation, to allow for the optimal movement of waste, as highlighted in the case example. This can help **lower the final cost** and **increase the demand** of recycled materials.

Another approach is **implementing new legislation** aimed at **lowering the final cost** of recycled materials. One example is the Ecodesign for Sustainable Products Regulation (ESPR) which sets recyclability requirements on products. However, **designing legislation efficiently is difficult**, and **several challenges** persist in its current form.[15] The ESPR also introduces minimum recycled content thresholds, which **stimulate demand for recycled materials**. Similarly, the PPWR establishes specific recycled content requirements for plastic packaging which increase over time, supporting a **sustained and growing demand**.

Extended Producer Responsibility (EPR) schemes, such as under the WFD, ensure that financing is available by **requiring producers to finance end-of-life recycling** of their products. This creates a **funding stream for recycling systems** and incentivises the design of **more recyclable products**. However, EPR schemes can be difficult to implement such that the true costs are reflected, and it could lead to higher consumer prices.

To help **lower the relative price** of recycled materials, the EU can strengthen its competitiveness by addressing the influx of cheap imported virgin materials through direct and indirect trade measures.[16] This objective can also be achieved by enhancing access to the recycling and re-use of critical raw materials within the EU, building on the objectives of the Critical Raw Materials Act.[17]

The recycling industry must **invest in innovation, improve material quality, and cut costs to meet EU targets and lead in the circular economy**. Collaboration across the value chain is essential to scale both supply and demand. Industry players should also engage in shaping clear, harmonised policies and build trust through transparency and high standards.

To make Europe's circular economy more than a vision, the EU must act now to **build a functioning recycling market**. This means **aligning rules across Member States and turn ambition into infrastructure, investment, and impact**.

---

[11] Georgiou et al. (2025): Suppressing Mechanical Property Variability in Recycled Plastics via Bio-inspired Design, link.

[12] As identified in Copenhagen Economics (2025): European textiles' global value chain, link.

[13] Vinylplus (2023): European Parliament position on the waste shipment regulation risks undermining EU circular economy, link.

[14] European Union: Financing the circular economy, link.

[15] See Copenhagen Economics (2025): European textiles' global value chain, page 31, link.

[16] E.g., CBAM measures, or ESPR or EPR schemes to ensure a level playing field. The effectiveness and impact of these measures will vary by product and material type, depending on the level of competition each faces from low-cost virgin imports, see Financial Times (2024): EU's new environmental laws irk developing countries, link.

[17] European Commission (2025): How can competition law support industry cooperation to procure, recycle and re-use critical raw materials, link.

Copenhagen Economics

Hard facts. Clear stories.

Morten May Hansen, Senior Economist
Phone: +45 6134 1208
Email: mmh@copenhageneconomics.com

Signe Rølmer Vejgaard, Partner
Phone: +45 5373 2310
Email: sir@copenhageneconomics.com

Jonathan Ramshaw, Analyst
Phone: +45 3165 6795
Email: jra@copenhageneconomics.com

About Copenhagen Economics

At Copenhagen Economics we believe sound economic analysis equips decision makers with the Hard Facts and Clear Stories to make better choices for the benefit of society. An expert-driven consulting company, clients choose us because of our economic insights, our specialised sector knowledge, our ability to build trustful relations, and our collaborative culture, where we take care to build teams that best meet the needs of the client.

You can read more about the services we operate here.